

## FAQ's from NDEE Commercial Building Envelope Webinar 5/6/2020

1. State of Nebraska implements the code on July 1, 2020, but if the local jurisdiction does NOT how does that apply?

The Nebraska's Energy Code is adopted by the legislature and establishes a state-wide code minimum and an implementation date. The statute also provides specific provisions for communities (see the 2<sup>nd</sup> paragraph of Nebraska Revised Statute 81-1618) where it establishes procedures and/or requirements for local jurisdictions interested in energy code waivers. As per statute, at the request of building owners, NDEE completes compliance inspections and reports on buildings state-wide, notwithstanding local jurisdiction adoption provisions.

2. Can you talk about the 50% applicability... where is this stated exactly?

The statute reference is:

### **Nebraska Revised Statute 81-1609**

#### **Terms, defined.**

*(6) Renovation means alterations on an existing building which will cost more than fifty percent of the replacement cost of such building at the time work is commenced or which was not previously heated or cooled, for which a heating or cooling system is now proposed, except that the restoration of historical buildings shall not be included;*

3. For exempt buildings, how does that apply to parking garages with a small conditioned space?

Parking garages themselves (as a building type) are not exempt from the Energy Code. Although unconditioned parking garages are obviously not required to meet IECC building envelope requirements, however they are required to meet lighting requirements assuming that the lighting for the garage exceeds the 1.0 Watt/sq. ft. "Low Energy Building" requirement.

Is the heating and cooling Btu/sf applied to just the heated space, or the entire building?

The Btu/sq. ft. requirement would apply to the conditioned portion of the building. For example, if the stair towers of a parking garage are being conditioned, the conditioned square footage of the stair tower would be used to determine whether the space is considered Low-Energy and if not, the building envelope requirements would apply to the stair tower.

4. How do we get the 2018 IECC book?

Code books are available through the International Code Council website's bookstore at:

<https://shop.iccsafe.org/>

5. If a portion of a building is only minimally heated (ie: to 55-60 degrees) but has no AC, is it considered a conditioned space? This would be in reference to a storage bldg.

The code defines **Conditioned Space** as *Any room, area or space that is enclosed within the building envelope and is directly or indirectly heated or cooled.* There is no reference made to minimally heating or no air conditioning, so unless the storage building you describe meets the Equipment Building exclusion requirements of Section C402.1.2, the Energy Code would apply.

6. Will these slides be available after the presentation?

Yes, the slides will be made available on the NDEE website <http://dee.ne.gov/>.

7. For the roof insulation, can some of the insulation be directly below the deck? For instance, you're trying to match up to something existing so you split the roof insulation with some above and some below the deck.

Since there is no prescriptive R-value requirement in the Table C402.1.3 for this type of application, you would need to determine the required R-value by putting the building into COMCheck. Remember, the insulation installed below the deck would be required to be installed in contact with the roof deck.

8. For metal frame wall, what is the R value if all insulation is ci?

Since there is no prescriptive R-value requirement in the Table C402.1.3 for Metal Framed Walls *with only continuous insulation*, the best option for determining what R-value is required would be to put your building into COMCheck. Although if you look at Table C402.1.4 the maximum U-factor for a Metal Framed Wall assembly in Zone 5 is U-0.064 (R-15.625) but remember, that value includes framing factor losses and isn't specifically insulation R-value.

9. How do the fenestration limitations work with curtain walls?

Building designers looking into large curtain walls systems may need to look at the ASHRAE 90.1 or building modeling compliance options for bringing a building design with a larger percentage of curtain wall surface into compliance. That type of building will probably not fall under the Prescriptive Package Compliance Option. Below is a link to a recent usglass.com magazine article discussing some possible options.

<https://www.usglassmag.com/insights/2019/10/new-2018-iecc-state-adoptions-present-opportunity-in-unexpected-places/>

10. Given scenario: Architect draws a detail showing R10 rigid insulation applied to EXTERIOR of basement wall. Architect discusses with both contractor and building owner the importance of this insulation. They acknowledge. Architect shows up while contractor is backfilling around basement walls and notes that insulation has NOT been installed according to plan and discussion. Contractor tells architect that the owner agrees that it would be better to fur out and insulate the interior of the wall. Long story short.... the contractor bullies the building owner, does nothing to insulate the basement walls, and collects final payment. Question: apart from hiring an attorney what is the best practice to get the contractor to come back and insulate the basement walls?

It is a difficult situation which, unfortunately once the final payment is made leaves very few options! The architect detailed the basement as required by code and if the construction bid included the insulation the contractor was responsible for installing it or not being paid full cost. If there is a local code jurisdiction, you could discuss with them their requirements regarding the work being completed as per your drawings and they may be able to provide you with assistance. As indicated in Question 11, if a written complaint is received from the building owner, within two years of the date of occupancy, an on-site inspection and written report regarding code compliance is provided by NDEE. There are statutory provisions for non-compliance penalties, however they are minor (a Class IV misdemeanor) and most code compliance disputes are generally handled via civil action.

11. Who is ultimately responsible in making sure a new building meets the current energy code?

In local code jurisdictions, where thermal or energy code has been adopted, the responsibility for code enforcement falls to the local jurisdiction. Where there is no local code jurisdiction or

in local code jurisdictions, where NO thermal or energy code has been adopted, the responsibility for code enforcement falls to NDEE. If a written complaint is received from the building owner, within two years of the date of occupancy, an on-site inspection and written report regarding code compliance is provided by NDEE. Additionally:

**Nebraska Revised Statute 81-1622 - No local energy code; contractor, architect, engineer; duties** indicates:

*Prior to the construction, renovation, or addition to any existing building after the dates specified in section 81-1614 the following requirements shall be met where a county, city, or village has not adopted a local energy code pursuant to section 81-1618:*

*(1) When no architect or engineer is retained, the prime contractor shall build or cause to be built, to the best of his or her knowledge, according to the Nebraska Energy Code; and*

*(2) When an architect or engineer is retained: (a) The architect or engineer shall place his or her state registration seal on all construction drawings which shall indicate that the design meets the Nebraska Energy Code and (b) the prime contractor responsible for the actual construction shall build or cause to be built in accordance with the construction documents prepared by the architect or engineer.*

12. So if a local municipality has not changed their local commercial building codes, come July 1, 2020 everyone should be building to the 2018 IECC, correct?

Yes.

13. Will a copy of this presentation be available to review the details in greater detail?

The presentation recording is now available on the NDEE website at <http://dee.ne.gov/>, type "video events" into the search bar on the homepage. A copy of the presentation and FAQ document will be available at the same location at the bottom of the page.

14. Are the 30% and 40% fenestration requirements per wall segment or is it based on the entire building?

As per Section C402.4.1 of the IECC *"The vertical fenestration area, not including opaque doors and opaque spandrel panels, shall be not greater than 30% of the **gross** above grade wall area."* Gross area, not per wall segment.

15. Regarding the 50% value Nebraska statute requirement, could you please provide specific reference on this?

See #2 above.

Does this apply on a building/project as a whole basis or a discipline basis? For example, if all lighting was demo out of a building, would it need to be updated to meet 2018 IECC if the mechanical systems and overall structure remains (overall value of the project is less than 50% value of the building). Generally, we are talking about the work being completed on the building "as a whole". But as in your example, if the only work being completed on the building is the lighting demo/replacement and the cost of that work only totals 15% of the replacement cost of the building it doesn't have to comply. What you cannot do is complete the lighting work at 15%, replace the mechanical systems at 25% and replace the windows at 20%; breaking it out "by discipline" doesn't get you out of the 2018 IECC requirement.

16. Can tapered insulation be considered as part your total R value of the roof?

Yes

If yes, is it an average of the tapered height?

The code references area-weighted u-value in **Section C402.2.1 Roof Assembly** requires *Continuous insulation board be installed in not less than 2 layers and the edge joints between each layer of insulation shall be staggered.* With the following exceptions:

- a. *Continuously insulated roof assemblies where the thickness of insulation varies by 1" or less and where the area-weighted U-factor is equivalent to the same assembly with the R-value specified in Table C402.1.3*
- b. *Where tapered insulation is used with insulation entirely above deck, the R-value where the insulation thickness varies 1" or less from the minimum thickness of tapered insulation must comply with the R-value specified in Table C402.1.3*
- c. *Two layers of insulation are not required where insulation tapers to the roof deck such as at roof drains.*

17. Are there Nebraska amendments to IECC?

The Nebraska Statute specifically references the 2018 IECC as the Nebraska Energy Code with no "technical" amendments to the Code. But, as discussed in #2 above, the statute does modify the applicability of the code regarding existing buildings and renovations.

18. Who would be the right person to direct questions as we work on projects?

The following NDEE staff members are available to respond to 2018 IECC questions:

- Bruce Hauschild at [bruce.hauschild@nebraska.gov](mailto:bruce.hauschild@nebraska.gov) generally best for mechanical system and COMCheck questions
- Lynn Chamberlin at [lynn.chamberlin@nebraska.gov](mailto:lynn.chamberlin@nebraska.gov) generally best for building envelope, lighting and RESCheck questions

Will there be something like a helpline as a resource?

Not at this time, but as indicated above, Bruce Hauschild and Lynn Chamberlin are available for questions.

19. Does the separation requirements for a room with combustion air for insulation, gasketed doors, etc. apply if the equipment is sealed combustion?

No, if you are installing all sealed combustion equipment this provision of the code would not apply.

20. Was there a stipulation in the State Statute that requires local jurisdictions adopt the 2018 IECC within a certain timeframe?

No, Nebraska's Energy Code establishes a state-wide implementation date (currently July 1, 2020), and provides specific provisions for communities and in the 2<sup>nd</sup> paragraph of Nebraska Revised Statute 81-1618 establishing the procedures and/or requirements for local jurisdictions interested in energy code waivers. It does not establish modification provisions for the implementation date.